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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,062	01/31/2002	James G. Bledsoe	25174A	2671

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OWENS CORNING
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EXAMINER	
STAICOVICI, STEFAN	

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/062,062	BLEDSOE ET AL.	
	Examiner	Art Unit	
	Stefan Staicovici	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 34-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *9,10,42 and 45-50* is/are allowed.

6)☒ Claim(s) *1-8, 11-12, 34-41, 43-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicants' amendment filed January 12, 2006 has been entered. Claims 1-12 and 34-50 are pending in the instant application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 34-41 and 43-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 34, the newly added limitation of evacuating substantially all air trapped between...the resin and the reinforcement panel through the perforations "without the use of heat" does not appear to have support in the original disclosure. Although the original disclosure does not describe evacuating substantially all air trapped between...the resin and the reinforcement panel through the perforations "without the use of heat," the original disclosure does not explicitly exclude the use of heat.

Claims 35-41 and 43-44 are rejected as dependent claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 34 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Oka (US Patent No. 5,446,250).

Oka ('250) teaches the claimed process of making a composite sheet including, providing as mold surface, laminating (applying) a gel coat layer (15) (at least one outer coat of material) onto said mold surface, applying a sheet of fiberglass onto said gel coat, applying a resin to impregnate said fiberglass sheet and form plate (12), adding a plurality of said resin impregnated fiberglass sheets, removing air bubbles between said resin impregnated fiberglass sheets, applying a perforated layer (13) (reinforcement panel) having a plurality of holes (16) therethrough, applying a restraining plate (14) (pervious polymer layer) and applying pressure to force an adhesive (resin) through said holes (16) and thereby bonding all layers together (see col. 3, line 48 through col. 4, line 10 and Figure 1). It submitted that said perforated layer (13) is obtained by drilling holes into said layer and that a resin impregnated fiber reinforced material, such as restraining plate (14), is a pervious material. Furthermore, Oka ('250) teaches that the bonding adhesive (resin) is effective at 20 ^{O}C, hence at room temperature. As such, it is submitted that bonding occurs without the use of heat.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka (US Patent No. 5,446,250) in view of Weinstein *et al.* (US Patent No. 4,082,882).

Oka ('250) teaches the basic claimed process as described above.

Regarding claim 35, although Oka ('250) teaches removing air bubbles between said resin impregnated fiberglass sheets, Oka ('250) does not teach the use of vacuum. However, the use of vacuum to remove air bubbles between a plurality of layers being laminated is well known as evidenced by Weinstein *et al.* ('882) who teach the use of vacuum to bond the plurality of layers under heat and pressure (col. 3, lines 36-56) and remove air bubbles. It is submitted that air is evacuated through said holes in the process of Oka ('250) in view of Weinstein *et al.* ('882) because in a vacuum forming process the air that is removed follows the path of least resistance, which in this case is represented by the holes in the reinforcing panel. Therefore, it would have been obvious for one of ordinary skill to have used a vacuum as taught by Weinstein *et al.* ('882) to bond the layers in the process of Oka ('250) due to a variety of advantages that vacuum processing provides such as, reduced porosity and increased strength, hence providing for an improved product.

In regard to claims 36, Oka ('250) teaches applying pressure to force an adhesive (resin) through holes (16) and thereby bonding all layers together (see col. 3, line 48 through col. 4, line 10 and Figure 1).

Specifically regarding claim 37, Oka ('250) teaches laminating an additional gel coating to restraining plate (14) (see col. 3, lines 20-23).

8. Claims 4-6, 8, 39-40 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka (US Patent No. 5,446,250) in view of JP 62-064527.

Oka ('250) teaches the basic claimed process as described above.

Regarding claims 4-6, 39-40 and 44, Oka ('250) does not teach tapered holes and the size of said holes. JP 62-064527 teaches bonding of a synthetic material (1) and a different material (2) that is perforated with a plurality of tapered holes (3), said holes having the smaller diameter (2-5 mm) (0.07-0.196 inches) facing said synthetic material (1) (first side of the reinforcement panel), and forcing said synthetic material (1) through said holes (3) to bond said synthetic material (1) and said different material (2) into a laminate (see Abstract and the Figures). Further, Oka ('250) teaches that said holes (16) have a diameter ranging of about 5 mm (see col. 3, lines 45-50). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a plurality of tapered holes, said holes having the smaller diameter (2-5 mm) (0.07-0.196 inches) facing the reinforcing sheet, as taught by JP 62-064527 in the reinforcement panel in the process of Oka ('250) because, JP 62-064527 teaches that tapered holes are needed to allow the molten material to flow through said holes and also teaches that the size is directly

dependent on the desired bond strength, hence teaching that the hole size is a result-effective variable.

In regard to claim 8, Oka ('250) teaches laminating an additional gel coating to restraining plate (14) (see col. 3, lines 20-23) that provides for improved aesthetics. Hence, it is submitted that sink marks do not exist on said panel of Oka ('250) in view of JP 62-064527 in order for it to function as described by maintaining its aesthetic appearance.

9. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oka (US Patent. No. 5,446,250) in view of Tellman *et al.* (US Patent No. 4,655,869).

Oka ('250) teaches the basic claimed process as described above.

Regarding claim 7, Oka ('250) does not teach perforating using at least one roller having a plurality of pins. However, the use of rollers with perforating pins is well known in the art as evidenced by Tellman *et al.* ('869) who teach perforating a veneer sheet using at least one roller (32) having perforating pins (36) (see Figure 2). Therefore, it would have been obvious for one of ordinary skill in the art to have used a roller with perforating pins as taught by Tellman *et al.* ('869) to form holes in the reinforcing panel obtained by the process of Oka ('250) because, Tellman *et al.* ('869) teach an efficient process of forming holes, whereas the teachings Oka ('250) require a process of making holes in a layer in order to function as described, hence showing a desirability for the teachings of Tellman *et al.* ('869).

10. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oka (US Patent No. 5,446,250) in view of JP 62-064527 and in further view of Tellman *et al.* (US Patent No. 4,655,869).

Oka ('250) in view of JP 62-064527 teaches the basic claimed process as described above.

Regarding claim 41, Oka ('250) in view of JP 62-064527 does not teach perforating using at least one roller having a plurality of pins. However, the use of rollers with perforating pins is well known in the art as evidenced by Tellman *et al.* ('869) who teach perforating a veneer sheet using at least one roller (32) having perforating pins (36) (see Figure 2). Therefore, it would have been obvious for one of ordinary skill in the art to have used a roller with perforating pins as taught by Tellman *et al.* ('869) to form holes in the reinforcing panel obtained by the process of Oka ('250) in view of JP 62-064527 because, Tellman *et al.* ('869) teach an efficient process of forming holes, whereas the teachings Oka ('250) in view of JP 62-064527 require a process of making holes in a layer in order to function as described, hence showing a desirability for the teachings of Tellman *et al.* ('869).

11. Claims 11-12 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka (US Patent No. 5,446,250) in view of Sharp (US Patent No. 5,054,645).

Oka ('250) teaches the basic claimed process as described above.

Regarding claims 11-12 and 43, Oka ('250) does not teach a plurality of tapered holes having a density from about 4-49 holes per square foot of reinforcement panel. Sharp ('645) teaches bonding a separating material (16) having a plurality of holes therein with a fiber reinforced layer (17). Further, Sharp ('645) teaches that the plurality of holes have density of 20-350 per square foot of separating material (see col. 3, line 48 through col. 4, line 5). Furthermore, it is noted that for a specific surface, the hole density is dependent on the size of the

holes. Therefore, it would have been obvious for one of ordinary skill in the art to have provided a plurality of holes having a density of 20-350 per square foot as taught by Sharp ('645) in the reinforcement panel in the process of Oka ('250) because, Sharp ('645) teaches that such hole density provides for improved bonding and also because, the hole density is dependent on the size of the holes, hence the hole density is a result-effective variable.

Allowable Subject Matter

12. Claims 9-10, 42 and 45-50 are allowed.

13. The following is an examiner's statement of reasons for allowance: the prior art does not teach or suggest a process for manufacturing a composite sheet including, applying at least one outer coat of material onto a mold surface, applying at least one coat of resin and reinforcement material over the outer coat to form a reinforcement layer, applying a perforated reinforcement panel to the reinforcement layer, forcing the resin into the perforations formed in the reinforcement panel, thereby bonding the reinforcement layer and the reinforcement panel, wherein the perforating step is accomplished by moving the reinforcement panel through three sets of opposed pinch-rollers, one roller of a middle set of the three sets being a perforating mandrel having a plurality of perforating pins.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

14. Applicant's arguments filed January 12, 2006 have been considered.

15. Applicants argue that although the original disclosure excludes "the use of heat," the original disclosure seems "'to cry out' for heat if it were intended to be used" and as such the lack of literal support does not, in and of itself, establish a prima facie case for lack of adequate descriptive support". Further, Applicants argue that "the drawings, in Figure 2, do not show any means for heating resin" Furthermore, Applicants argue that "the resin is liquid and is a quick acting material that sets up within about 20 minutes." Also, Applicants argue that "the specification, at page 10, line 18, discloses an embodiment of a polyester/epoxy blend that flows into holes" and as such, this "material is flowable at ambient temperatures" (see pages 10-12 of the amendment filed 1/12/2006). In response, it is noted that although a material may be "flowable" at ambient temperature, it may not be cured at room temperature. Further, it is noted that one ordinarily skilled recognizes that a resin may be cured at room temperature, but that heating a resin for curing purposes reduces the curing time, hence providing for an improved productivity. Furthermore, it is noted that the limitation of excluding "the use of heat" is drawn to a process step of "evacuating air" and not flowing or curing the resin.

Further, it is noted that MPEP §2163.02 specifically states that the "fundamental factual inquiry is whether the specification conveys with *reasonable clarity* (emphasis added) to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. *See* Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117

(Fed. Cir. 1991). Furthermore, MPEP §2163.02 provides that an "[A]applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such *descriptive means* (emphasis added) as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). Therefore, in order to show possession of the claimed invention, Applicants are required to use descriptive means (underlining added) as defined by the list provided in MPEP §2163.02. In the instant application, Applicants have not provided any descriptive means, as defined by MPEP §2163.02, to show forcing the resin into the perforations "without the use of heat." It is submitted that a simple negative recitation of a limitation does not meet the "descriptive means" test of MPEP §2163.02 because, it does not convey with *reasonable clarity* (emphasis added) that the "applicant was in possession of the invention as now claimed." Further, it is submitted that although "literal support" is not required, a form of *descriptive means* (emphasis added) is required to set forth the negative limitation, which would have conveyed to one of ordinary skill in the art that Applicants had possession of the negative limitation.

16. Applicants argue that the limitation of "consisting essentially of...excludes other elements and other steps" (see pages 12-13 of the amendment filed 1/12/2006). In response, it is noted that under MPEP §2111.03, "[T]he transitional phrase 'consisting essentially of' limits the scope of a claim to the specified materials or steps 'and those that do not materially affect the basic and novel characteristic(s)' of the claimed invention." In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). Hence, "[I]f an applicant contends that additional steps or

materials in the prior art are excluded by the recitation of 'consisting essentially of,' applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). As such, "absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, 'consisting essentially of' will be construed as equivalent to 'comprising'" *See, e.g.*, PPG, 156 F.3d at 1355, 48 USPQ2d at 1355.

17. In response to applicant's arguments against the teachings of JP 62-064527, Tellman *et al.*, ('869), Sharp ('645) and Weinstein *et al.* ('882) individually (see pages 13-15 of the amendment filed 1/12/2006), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

18. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., forcing resin into holes using vacuum and without using heat) (see pages 14-16 of the amendment filed 1/12/2006) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD

Stefan Staicovici 4/3/06

Primary Examiner

AU 1732

April 3, 2006